Caution: The expansion cage and the expansion cards that it contains are not hot-pluggable. To avoid damage to equipment and possible loss of data, make sure that the library is properly powered down, as described in Step 2, before proceeding.
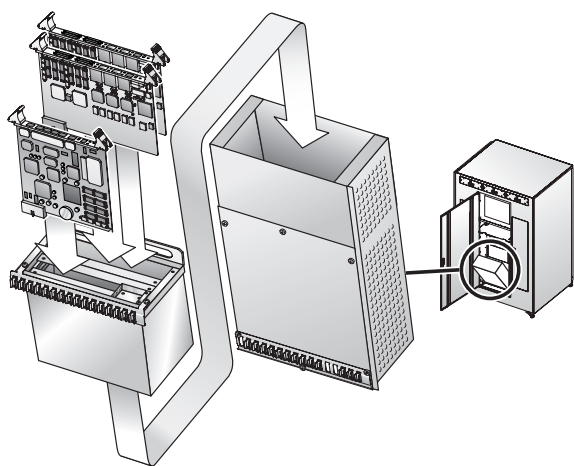
Caution: Parts can be damaged by electrostatic discharge. Keep parts in their containers until needed. Make sure that you are properly grounded when touching static-sensitive components.

IMPORTANT:

If you are also installing one or more HP StorageWorks e2400-160 Fibre Channel Interface Controllers with the Interface Manager card, use this documentation instead of the installation instructions that come with the Fibre Channel interface controllers.

Note: This poster outlines the first-time installation procedure for the Interface Manager card. If you are adding an Interface Manager card to an existing configuration of one to four FC interface controllers, perform Steps 2 and 3, then skip to Step 22 and finish the procedure. Refer to the *HP StorageWorks Interface Manager and Command View TL Installation Guide* for more information.

Overview

The HP StorageWorks Interface Manager for tape libraries is a management card designed to consolidate and simplify the management of multiple HP StorageWorks e2400-160 Fibre Channel (FC) Interface Controllers (FC-to-SCSI routers) installed in an HP StorageWorks ESL library.

The Interface Manager card and the FC interface controllers that it manages are installed in a cage. This cage is installed into an HP StorageWorks ESL library.

1
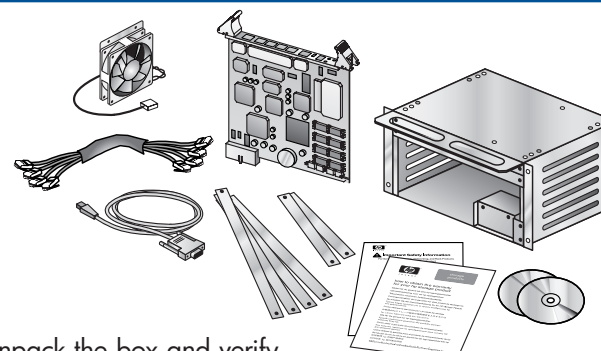
Unpack the box and verify that all the contents are present: Successful operation of the Interface Manager card requires a minimum of the following:
• HP StorageWorks ESL9000 Series Tape Library with firmware revision 3.40 or later
• Interface Manager card and documentation
• One to four HP StorageWorks e2400-160 Fibre Channel Interface Controllers with a minimum firmware revision of 5.1.07
• Management station—a Microsoft Windows-based PC (server)

You will need the following:
• Screwdrivers (Phillips and flathead)
• Allen wrench
• Multimeter
• Anti-static wrist strap
• RJ-45 Ethernet cable
• PC or laptop (optional)
• IP address, subnet mask, and gateway address for Interface Manager card (from Network Administrator)

2
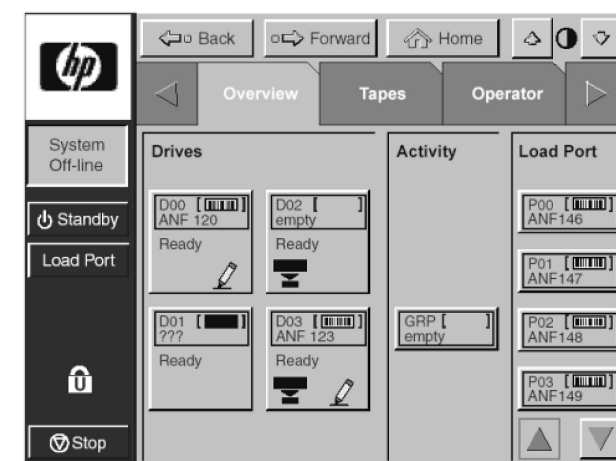
Power down the ESL9000 Series library.
a. Press **Standby** on the front control panel of the library to place the library off-line. Verify that the control panel indicates System Off-line.
b. Check the **Overview** screen of the control panel to verify that the gripper is empty. If there is a tape cartridge in the gripper, perform a move command to place the cartridge in an available storage bin.
c. Switch off the power switch located below the control panel.

3 Fan Installation

Note: If you are adding an Interface Manager card to an existing configuration, skip to Step 22.

Open either the center back access door or the right back access door of the library, depending on the model. Turn off both circuit breakers on the AC power distribution assembly, which is located in the base of the library cabinet behind the rear access panel. Loosen the two captive screws at the top of the electronics bay frame. Carefully tilt the electronics bay outward.
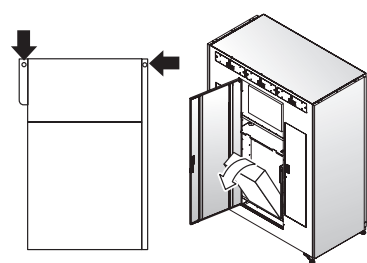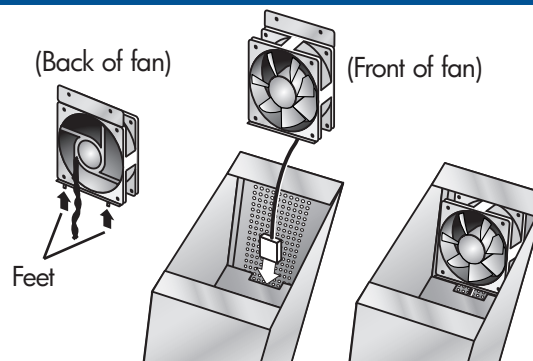
4
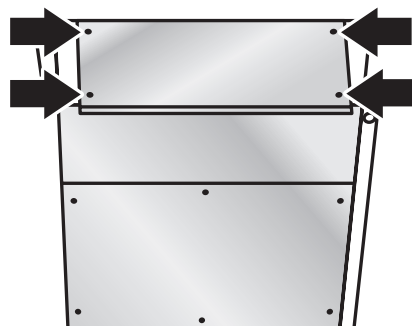
Using a Phillips screwdriver, remove the four screws at the corners of the top cover of the electronics bay, then remove the cover. Place the screws in a safe place for use later in the procedure.

5

(Back of fan)   (Front of fan)

Feet

Remove the screws that are attached to the fan and put them in a safe place. Position the fan so that the feet angle downward toward the holes in the side wall.

Position the fan cable against the side wall of the electronics bay and drop it down through the opening in the floor of the bay. Seat the fan by inserting the feet into the last row of available holes on the electronics bay wall.

6
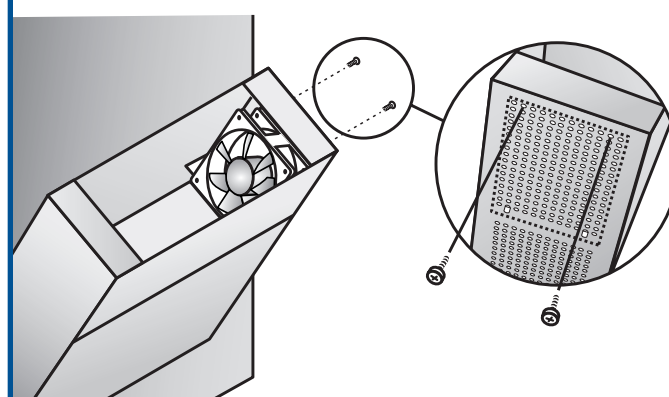
Using a Phillips screwdriver and the two screws that you removed in Step 5, mount the fan assembly to the upper right side of the electronics bay.

7

Push the electronics bay back into the library and finger tighten the two captive screws at the top of the electronics bay frame.

Using a Phillips screwdriver, remove the six screws securing the cover to the electronics bay. Make sure that you support the bottom of the cover while removing the screws.
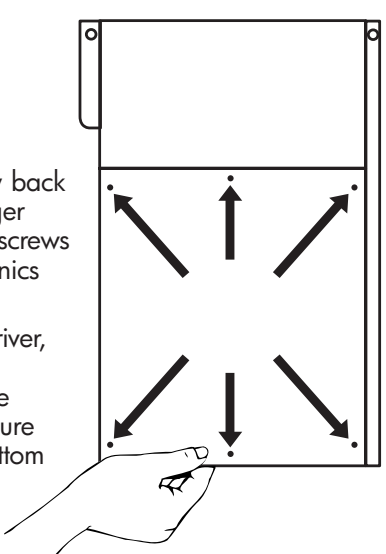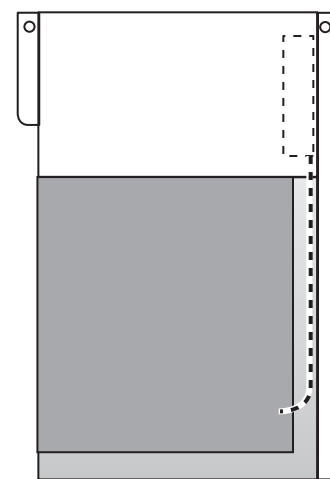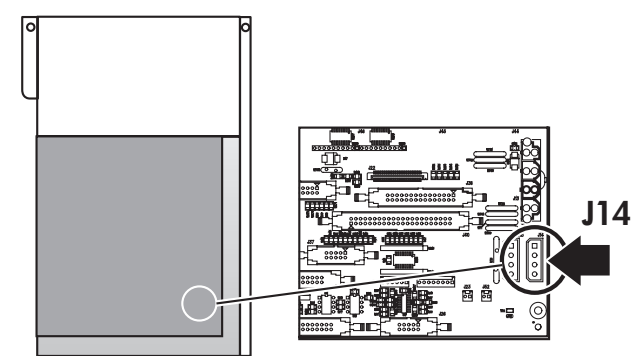
8

Route the fan cable to the right of any existing cards.

Caution: The area for the fan power cable is limited. Route the cable as far back on the electronics bay as it will go. This prevents the cable from being damaged when the expansion cage is installed.

9

J14

Plug the fan assembly power cable into connector J14 on the robotics backplane.

10 Expansion Cage Installation

Caution: If you have not installed the cooling fan for the expansion cage, refer to the previous section, "Fan Installation," to install the fan. To prevent thermal damage to the equipment, do not install the card cage without first installing the cooling fan.

Inspect the connector pins on the outside bottom of the card cage. Make sure that no pins are bent or touching.

Caution: If a connector pin is bent or damaged, replace the expansion cage. Do not attempt to fix the pin. A defective pin can damage the library.

Connector pins

(Bottom of expansion cage)
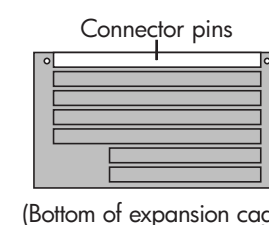
11

Loosen the two captive screws at the top of the electronics bay frame and carefully tilt the electronics bay outward. Locate the guide pins for alignment. Lower the expansion cage into the electronics bay into the guide pin holes located on the PCI backplane. Press down evenly on both sides of the expansion cage until it is firmly seated.

Guide Pins

(Front of electronics bay)
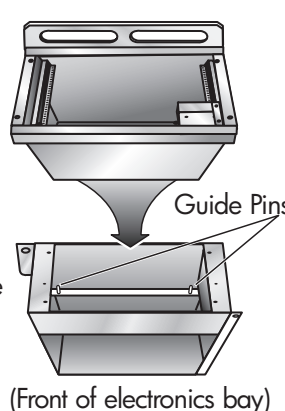
Caution: Be careful not to pinch the fan power cable.

Caution: Make sure that the connectors on the expansion cage and the PCI backplane align properly.

12
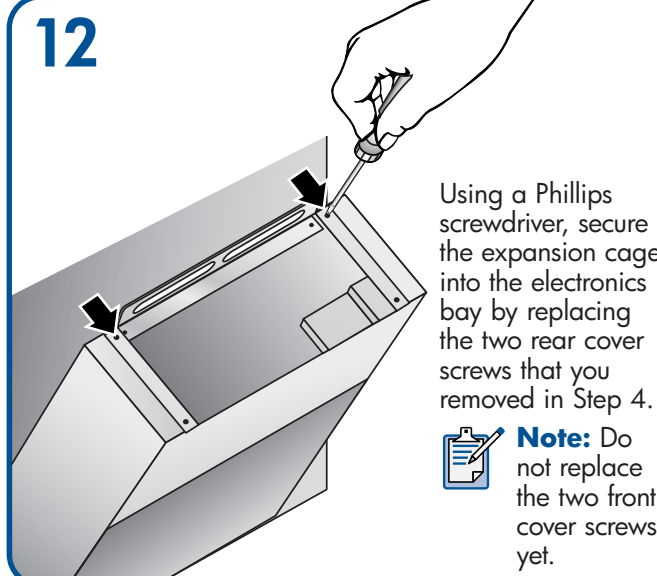
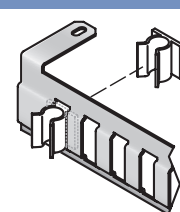Using a Phillips screwdriver, secure the expansion cage into the electronics bay by replacing the two rear cover screws that you removed in Step 4.

Note: Do not replace the two front cover screws yet.

13 Cable Clamp Installation

If they are not already installed, install the cable clips into each cable clamp starting with the first position from the left edge of the clamp.

Note: The library rear door may not close if clips are placed in the fourth and fifth openings on the right edge of the cable clamp. If necessary, use the extra clips with adhesive backing and attach them to the left side of the electronics bay frame.

14
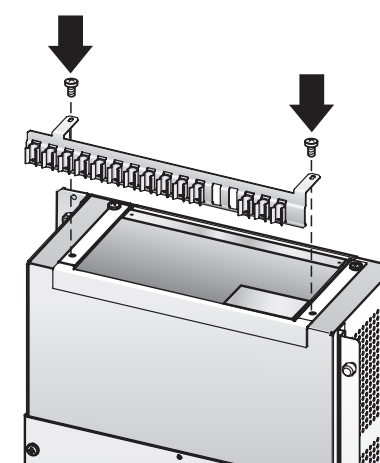
Install the upper cable clamp on the expansion cage using the remaining two top cover screws.

15

+3.3V GND
TP7   TP4

+12V
TP8

+5V
TP6

GND
TP1
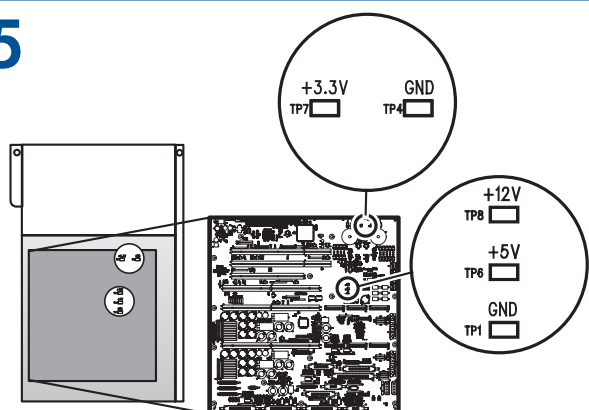
Use a multimeter to measure the resistance shown on the PCI backplane. Place one lead on ground and the other lead on the +3.3V, +12V, and +5V test points to be checked. If the multimeter shows a short, check the expansion cage and fan to ensure proper connections.
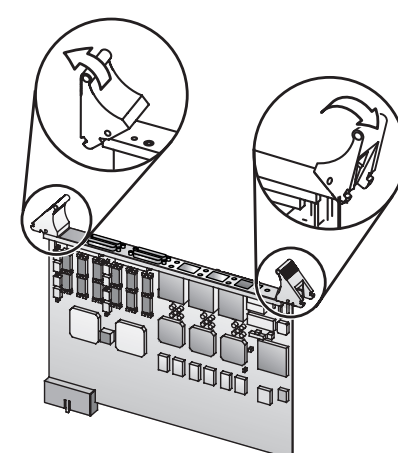
16

Electronics bay cover
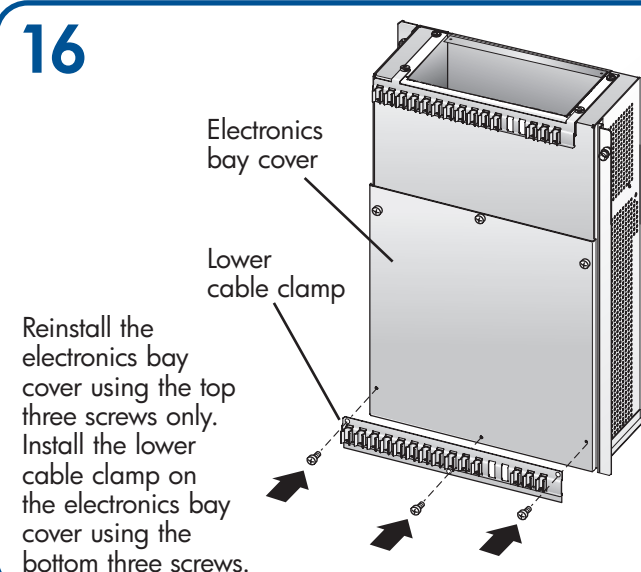
Lower cable clamp

Reinstall the electronics bay cover using the top three screws only. Install the lower cable clamp on the electronics bay cover using the bottom three screws.
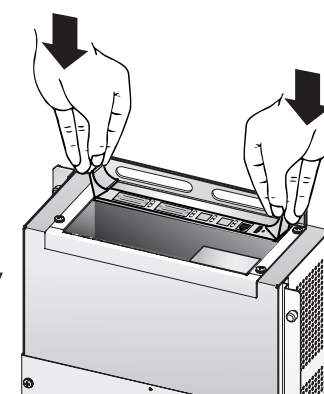
17 Fibre Channel Interface Controller Installation

Push the ejector handles so that they extend towards the outer edges of the FC interface controller.

18

With the SCSI ports located to your left as you face the back of the library, align the sides of the controller with the guides in the designated slot in the expansion cage. Gently push the controller into the expansion cage slot, ensuring that the alignment pin on the controller aligns with the alignment hole in the corresponding cage slot. Push the controller until the ejector handles engage the metal rails on the top of the cage.
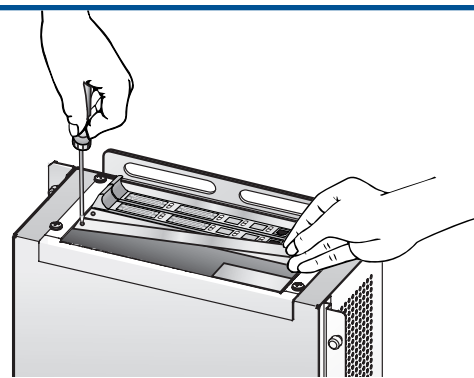
19

Push the ejector handles inward to lock the controller in place.
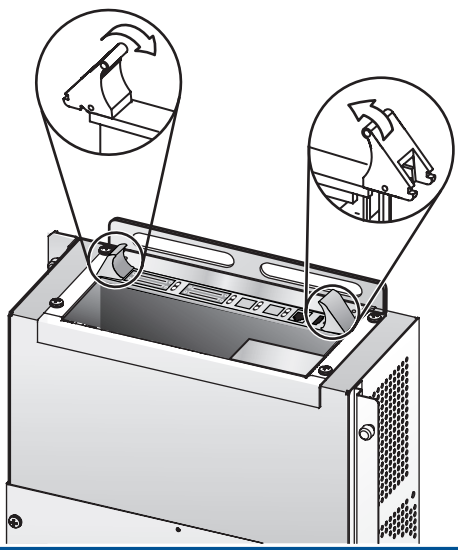
20

Repeat steps 17 through 19 for each controller to be installed. Install 6U filler panels (slot covers) into all unused slots.

⚠️ **Caution:** Failure to install filler panels in unused slots may result in thermal damage to the hardware.
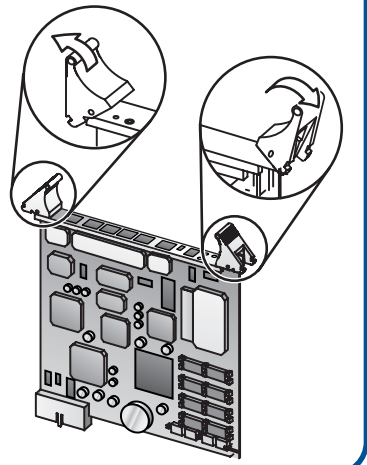
21

Tighten the captive screws to secure the controllers into the expansion cage.
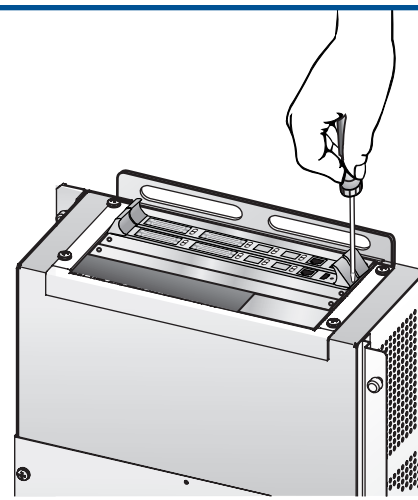
22 Interface Manager Card Installation

Push the ejector handles so that they extend towards the outer edges of the Interface Manager card.

23

Align the sides of the Interface Manager card with the guides in either one of the 4U slots in the expansion cage. Gently push the Interface Manager card into the expansion cage slot, making sure that the alignment pin on the card aligns with the alignment hole in the corresponding cage slot. Push the card until the ejector handles engage the metal rails on the top of the cage.

📝 **Note:** If this is an upgrade installation, you will need to remove a 4U filler panel before installing the Interface Manager card.
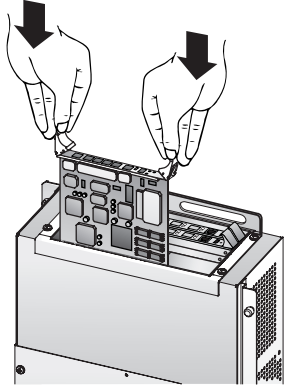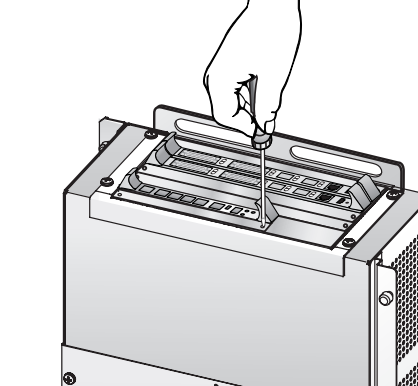
24

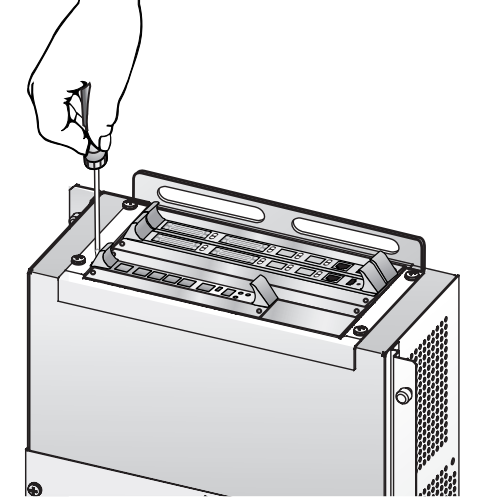Push the ejector handles inward to lock the card in place.
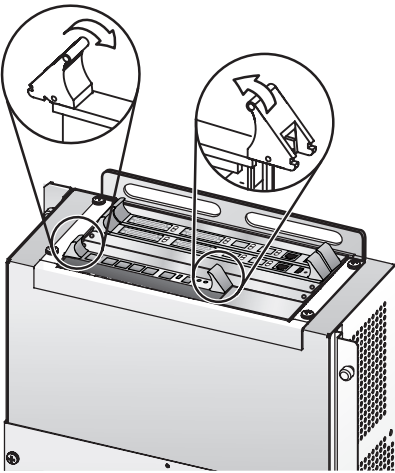
25

If necessary, install a 4U filler panel (slot cover) into the unused 4U slot.

⚠️ **Caution:** Failure to install filler panels in unused slots may result in thermal damage to the hardware.

26

Tighten the captive screws to secure the Interface Manager card into the expansion cage.

27

Connect the four connectors from one end of the Ethernet cable bundle to the four Ethernet ports labeled "To Fibre Channel Controllers" on the Interface Manager card.

📝 **Note:** Be sure to connect all four Ethernet cables from the Ethernet cable bundle, even if you are not using four FC interface controllers.
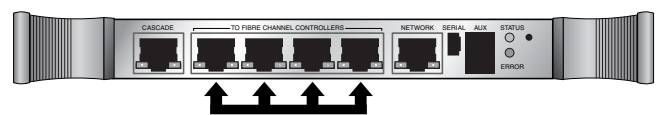
28

Connect each of the connectors from the other end of the Ethernet cable bundle to the Ethernet port on the FC interface controllers.

📝 **Note:** The order in which the four Ethernet ports labeled "To Fibre Channel Controllers" on the Interface Manager card are connected to the FC interface controllers is inconsequential. If less than four FC interface controllers are installed, leave the unused connectors from the Ethernet cable bundle hanging.
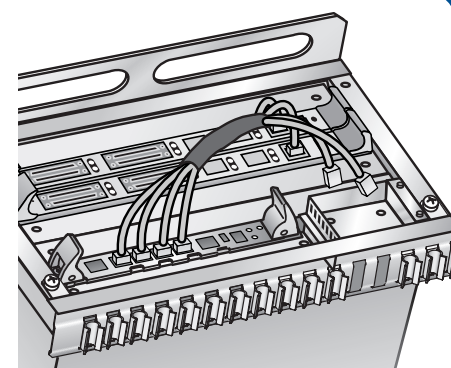
29

Connect the SCSI connectors on the FC interface controllers to the SCSI connectors on the library SCSI bulkhead. Refer to the *HP StorageWorks Interface Manager and Command View TL Installation Guide* for detailed SCSI cabling instructions. Secure the SCSI cables going from the controller to the library bulkhead by snapping them into the clips in the upper and lower cable clamps located on the electronics enclosure. To prevent interference with the door, do not use the fourth and fifth clips from the right edge of the cable clamp.
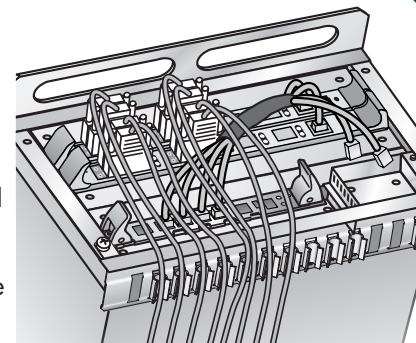

30

Connect the FC cables from any external fibre devices to the FC connectors on the FC interface controllers. Route the FC cables through the access port on the back of the library.

⚠️ **Caution:** Do not pinch the FC cables or bend them in such a way that the radius of the bend is less than two inches.
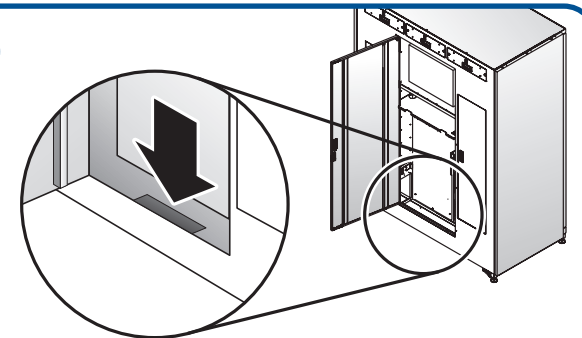
31

Connect a standard RJ-45 Ethernet cable from the LAN to the Ethernet port labeled "Network" on the Interface Manager card.
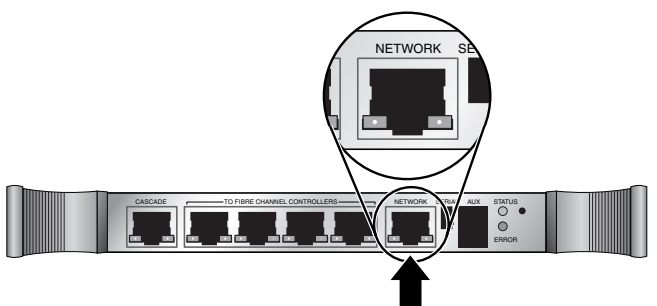
32

To prepare for the configuration procedure, use a standard RJ-45 network cable to connect the network port of the PC or laptop to the port labeled "Cascade" on the Interface Manager card. Route the cable through the access port on the back of the library (see step 30).
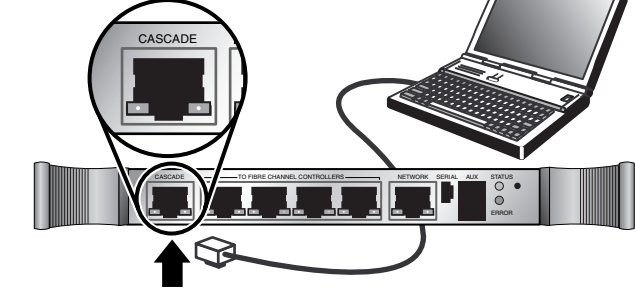
33

Verify that filler panels are installed in all unused slots in the expansion cage. Push the electronics bay back into the library cabinet and finger-tighten the two captive screws to secure the electronics bay in place.
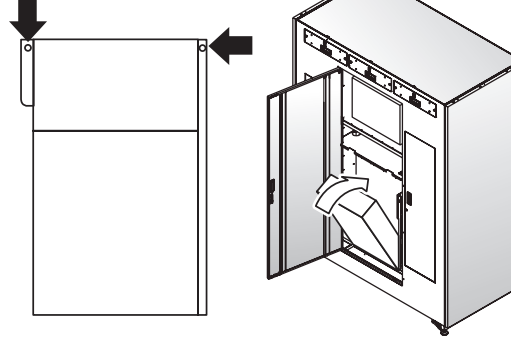
34

Power on the ESL9000 Series library using the following sequence:

a. Turn on both circuit breakers on the AC power distribution assembly.

b. Verify that all access panels are closed, all back panel cable connections are firmly in place, and all doors are closed.

c. Turn on the power switch located below the control panel.

After successfully installing the hardware, proceed to the "Configuration" section.

Configuration

For detailed configuration instructions, refer to Chapter 3, "Configuration and Software Installation," of the *HP StorageWorks Interface Manager and Command View TL Installation Guide*

Getting/Setting the IP Address of the Interface Manager Card

1. Start a Telnet session on the PC or laptop that you connected to the Interface Manager card in Step 32:

   a. From a command prompt, enter the following:
   `telnet 192.168.2.1`

   📝 **Note:** The above IP address is the IP address of the cascade port. It is *not* the network IP address. The cascade IP address is hardcoded into the Interface Manager card and is separate from the network IP address.

   b. At the login prompt, use the following information:
   • Username: `cliadmin`
   • Password: `clipwd`

2. To display the current network IP address along with other network information, enter the following command:
   `show network ipaddress`

   • If the IP address is 1.1.1.1, then DHCP mode was either disabled, or unable to obtain an IP address automatically. Proceed to Step 3 to set the IP address.

   • If the IP address is anything other than 1.1.1.1, then DHCP obtained the IP address automatically. If you choose to keep this IP address, then record it and proceed to Step 5. To change the address, continue with Step 3.

Configuration

(continued)

📝 **Note:** HP recommends using a static IP address provided by your network administrator for the Interface Manager card rather than an IP address assigned by DHCP.

3. Obtain an IP address, subnet mask, and gateway address for the Interface Manager card from your network administrator.

4. To change the IP address enter the following command with all arguments: `set network ipaddress <IP address> <subnet mask> <gateway address>`

   📝 **Note:** The default gateway must be set to a valid gateway address.

5. Use the `exit` command to end the Telnet session.

6. Disconnect the Ethernet cable from the Cascade port of the Interface Manager card.

7. Using a 5/32 inch Allen wrench, close and secure the back access door of the library.

Command View TL Prerequisites

For the server side, Command View TL requires a management station (server) with a minimum of:
• Pentium III 500-MHz, 256-MB RAM
• 10/100 Base-T network card (a static IP address is recommended)
• Microsoft Windows 2000 Professional or Server edition SP3, Windows XP Professional

For the client side, Command View TL requires the following:
• Microsoft Internet Explorer v6.0 SP1 or later, or Netscape Navigator v6.2 or later. Make sure that Java support is enabled in the browser
• An Internet connection is recommended to enable Command View TL to receive firmware and software release information automatically from the HP support website.

Starting Command View TL

1. Install the Command View TL software on the management station.

   a. Insert the Command View TL software CD into the CD-ROM drive of the management station.

   b. If autorun is disabled on the CD-ROM drive, locate and double-click the *setup.exe* file on the CD.

   c. Follow the instructions on the screen to complete the installation.

   d. Reboot the management station.

2. Open a supported browser on either the management station or any computer on the LAN, and enter the following URL in the address field: `http://<hostname>:4095/` (where *<hostname>* is the IP address or network name of the management station. If you are opening a browser on the management station itself, you can substitute `localhost` for the hostname).

Configuring Command View TL

After installing the Interface Manager card and Command View TL, you must perform the following configuration steps using Command View TL:

• Set the Command View TL administrative password.
• Verify proxy settings for the management station.
• Add all libraries to Command View TL that will be monitored.
• Add the license key for Command View TL and any additional features that you have purchased.
• Configure properties for each library.
• Configure host access (Secure Manager).

For complete instructions for each of these configuration steps, see "Initial Configuration Steps" in Chapter 2 of the *HP StorageWorks Interface Manager and Command View TL User Guide.*